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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)
And Related Matters.	Application 15-07-002 Application 15-07-003 Application 15-07-006
(NOT CONSOLIDATED)	
In the Matter of the Application of Pacificorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 769.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters.	Application 15-07-007 Application 15-07-008

**COMMENTS OF SOLARCITY CORPORATION ON TRACK 2 DEMONSTRATION
PROJECTS**

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**COMMENTS OF SOLARCITY CORPORATION ON TRACK 2 DEMONSTRATION
PROJECTS**

Pursuant to the *Joint Assigned Commissioner and Administrative Law Judge's Ruling Regarding Comments on Track 2 Demonstration Projects*, issued on May 17, 2016, SolarCity Corporation (SolarCity) respectfully submits the following comments. In Administrative Law Judge Allen's subsequent ruling of July 12, 2016, shifting the due dates for comments, parties are directed to address the questions and follow the numbering in Appendix A of the May 17 Ruling. Nearly all of the Appendix A questions are directed at entities that have proposed projects, which SolarCity has not done. The comments provided here are a higher level review of the utilities' Track 2 demonstration project proposals. Question 1 in Appendix A of the May 17 ruling, addressing project prioritization, is addressed at the end of these comments.

1. Description of SolarCity

SolarCity is California's leading full service solar power provider for homeowners and businesses – a single source for engineering, design, installation, monitoring, and support. The company has more than 5,000 California employees based at more than 40 facilities around the state and had installed solar energy systems for over 260,000 customers nationwide as of March 31, 2016.

2. Introduction

As a leading provider of distributed, behind-the-meter energy solutions, SolarCity is keenly interested in the Commission's ongoing efforts to reform utility distribution planning processes to ensure that California's largest investor-owned utilities (utilities)¹ are designing their distribution systems to accommodate anticipated deployments of distributed energy resources (DERs) and taking full advantage of the myriad services these resources can provide. The Track 2 Demonstration Projects proposed by the utilities are an important element in this initiative to the extent they provide the opportunity to validate foundational tools, like the locational net benefits analysis (LNBA) methodology, as well as prove out the capabilities of DERs to serve in lieu of more conventional "wires" solutions to address system needs.

SolarCity believes there is tremendous value in the "learning by doing" that is afforded through the proposed demonstration projects. We are encouraged to see that the utilities have taken significant and positive steps to develop project proposals that can help advance the state of knowledge and experience with respect to DERs and the opportunity to effectively contract with third-party providers to provide a variety of grid services. In the comments below we offer

¹ In these comments, SolarCity addresses the Track 2 demonstration projects proposed by Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E).

a number of recommendations that we believe will further strengthen the proposed pilots and process. Importantly, these suggestions hopefully offer a reasonable means of reducing the timelines associated with these projects.

As proposed, the demonstration projects generally do not conclude prior to 2020. Lessons from these pilots will be less valuable if they are only realized and communicated after such a long duration. The intention of these efforts is to answer key questions about how DERs can be valuable to the grid. DER deployment continues to grow, and the opportunity to mobilize this deployment to the benefit of the grid will be limited until the vision of these pilots is realized and broadly deployed.

At a high level, SolarCity offers the following recommendations:

- Once the demonstration projects have been approved, the process for actual vendor selection can be streamlined by allowing the utilities to enter into bilateral contracts with DER solution providers without requiring additional formal Commission review and approval.
- Each of the demonstration projects should seek to address a defined grid need to further the practical learning and experience to be gained from pursuing the demonstration projects.
- Rather than issue a final report that reviews all aspects of a given demonstration project, the utilities should instead issue periodic reports that provide summary information and lessons learned at the conclusion of key milestones.
- Related to the prior bullet, to the degree a demonstration project seeks to address an identified need, the utility should assess whether the demonstration needs to run for a full year before any conclusions can be drawn regarding the success of the

demonstration. In many cases the given need a demonstration is intended to address may occur only over a specific timeframe (e.g., summer peak) allowing evaluation to happen once that relevant period has occurred.

3. A Less Formalized Process for Project Selection and Approval is Appropriate to Accelerate the Timeline for the Demonstrations

Given the stated objectives of these pilot projects, which are focused principally on technical validation, SolarCity believes the utilities and Commission can and should pursue a process for project selection that places greater emphasis on the ability to implement and complete the pilots in as timely a manner as possible. While in the longer term a more fully fleshed out and formalized approach that emphasizes cost-effectiveness and competition between solution providers will be necessary and appropriate, we are concerned about the significant tradeoffs in terms of the pilot timeline associated with pursuing an all-source solicitation, as proposed by PG&E.

As an alternative, SolarCity suggests that the utilities instead be directed to issue a request for information (RFI) to solicit proposals from interested vendors regarding the types of solutions they would be able to offer to address a given identified need or pilot objective and give the utilities relative discretion to enter into bilateral negotiations with those vendors that they believe have put forward promising proposals. While actual project selection from the pool of RFI respondents should be done in consultation with Commission staff and non-market participants, perhaps via something akin to a procurement review group, to ensure that those projects the utilities ultimately pursue adequately address key objectives, SolarCity does not feel it is necessary to submit those projects to the Commission for formal approval as is typically done in the case of more established utility procurement activities.

SolarCity applauds the ambition inherent in the proposed all-source solicitation, and recognizes that significant learnings could come from the real-world experience of these solicitations. It is our judgment, however, that a shorter pathway to demonstration results is of higher value. SolarCity notes that a more systematic and formal process to procure DER solutions is currently the focus of efforts underway in the Commission's Integrated Distributed Energy Resources (IDER) proceeding, including the activities of the Competitive Solicitation Framework Working Group. Even in the absence of a full solicitation process in the this DRP proceeding, we would fully anticipate the utilities will gain invaluable experience through bilateral negotiations that can help advance discussions in the IDER proceeding in terms of the types of technical and commercial issues that will need to be addressed as part of any more systematic and ongoing solicitation process.

4. The Interests of the Commission are Best Served by Demonstration Projects that Utilize DERs to Address a Clearly Defined, Real-World Need

All three of the major investor owned utilities have done a commendable job with respect to Demonstration C in terms of developing a proposal that will test the capacity of DERs to provide a range of specified grid services and address an identified set of system needs. By focusing on developing a demonstration that addresses a practical need the utility faces, the opportunity to fully assess the capacity of DERs to provide services is significantly enhanced. SolarCity submits that the value of Demonstrations D and E would likewise be greatly enhanced if they also focused on projects that address a defined system need. PG&E's proposed demonstrations stand out in this regard as PG&E, unique among the three major utilities, has put forward proposals that, in each case, address an actual system need while at the same time addressing the core focus that each respective demonstration project is required to address.

In contrast, in developing their proposed Demonstrations D and E, both SCE and SDG&E appear to have designed a proposal that forgoes the opportunity to utilize DERs to address a clearly identified system need. While SolarCity acknowledges that this is not strictly required for purposes of these specific demonstrations, in our view this represents a missed opportunity.

In the case of both SCE and SDG&E, it appears the proposed activities would be pursued in areas where the success of the project would ultimately have no clear practical bearing on investments the utility would otherwise have to make or costs the utilities will bear, rendering these efforts largely academic exercises. SolarCity supports the basic objectives of the projects proposed for Demonstration D, namely to validate the ability to effectively integrate high penetrations of DERs into the utilities' distribution operations. A high penetration of DERs, used in a way that is coordinated by the distribution utility, would be capable of valuable services that could address a number of system constraints.

While there is a sensible desire to learn to walk before we run, SolarCity would encourage both SCE and SDG&E to consider: A) conducting these efforts where success would translate into avoided costs for ratepayers as well as yield more tangible or practical results, or B) communicate the way in which these practical applications will be simulated in a way that the utility will be equally confident in the capability of DERs to provide the avoided costs. In contrast, in reviewing PG&E's proposed Demonstration D project, PG&E intends to utilize high concentrations of DERs to address a physical constraint they are facing at their Huron Substation. As we understand it, the DERs deployed under this pilot would serve in lieu of investing in a second transformer bank.

A similar critique applies to Demonstration E. In SCE's case the utility proposes to deploy a residential microgrid based largely on the receptivity of customers and the attractive physical and system attributes in the proposed area. The applicability of the proposed project to specific system needs and the value of replicating the project elsewhere on the system could be better communicated. SDG&E's proposal leverages an existing microgrid project in Borrego Springs. While this is an attractive location for a microgrid demonstration, a better description of the applicability of the learnings to enable distribution-level value would be helpful.

As with Demonstration D, we find that PG&E's approach is more compelling because it focuses on a real-world need and pursues a demonstration project that, if successful, will yield tangible and practical, real-world demonstration of deferred investment and alternative solutions. This is not to say that there would not be interesting learnings that may emerge from the proposed initiatives of SCE and SDG&E. However, by proposing pilots that appear not to be designed to address a live issue or concern, they appear to forego an opportunity to gain valuable experience in the practical capacity of DERs.

5. The Timeline Can be Further Accelerated By Modifying the Proposed Reporting Process

For each of the proposed pilots, the utilities correctly anticipate the need to develop reports summarizing the results of the demonstrations and lessons learned. However, the timeline for developing these adds considerably to the overall schedule. To reduce these impacts, SolarCity has two suggestions. First, rather than waiting until the conclusion of a given demonstration to develop a report that covers the entirety of the project, from initial development and implementation through its completion, it may make more sense to provide periodic reports that provide an overview and lessons learned at specified points in the demonstration project's

lifecycle. For example, an overview of the solicitation process and key lessons learned from that process, inclusive of key learnings related to bilateral contracting, could be developed at the conclusion of that phase of a demonstration project. This would save time at the back end, while simultaneously providing more timely information that could be helpful in informing other efforts, like ongoing activities in the IDER proceeding to develop an effective sourcing process for DERs.

Additionally, the amount of time a demonstration needs to run in order to draw and report on meaningful conclusions regarding the capacity and capabilities of DERs may, in many instances, be significantly less than what the utilities have proposed. To the extent a given demonstration is intended to address a given system need or condition, and to the degree those system needs or conditions are generally confined to a specific timeframe within a year (e.g., summer peak), there is no need to delay a preliminary assessment of the efficacy of the DERs in addressing that need significantly beyond that time.

6. Timing of Commission Approval

SolarCity encourages the Commission to expedite approval of all of the Track 2 Demonstration projects. To the degree that prioritization of certain projects is helpful to this end, SolarCity notes that the learnings from Demonstration C are intended to inform and validate the LNBA effort. This may represent a schedule dependency that would support quick completion of Demonstration C.

7. Conclusion

SolarCity appreciates the considerable thought and effort that went into the Track 2 Demonstration Proposals put forward by the utilities and the opportunity to provide this feedback.

Respectfully submitted,

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